

Type	L #	Hits	Search Text	DBS	Time Stamp	Com men ts	Error Defini tion	Err ors
1	BRS	L1	31 ionic adj conjugate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:17			0
2	BRS	L2	10604 inorganic adj particle	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:17			0
3	BRS	L3	58594 linker or (linking adj group)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:18			0
4	BRS	L4	368036 macromolecule or polypeptide or protein	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:19			0
5	BRS	L5	532209 charged or ionizable	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:19			0
6	BRS	L6	2 same 3 same 4 same 5	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:21			0
7	BRS	L7	2 1 same 2	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:22			0
8	BRS	L8	1 (CdSe or ZnS) same 1	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:23			0
9	BRS	L9	64951 semiconductor\$3 adj (nanocrystal or material)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:24			0
10	BRS	L10	1 same 9	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:25			0
11	BRS	L11	540967 ag or au or phosphoer	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:25			0

Type	L #	Hits	Search Text	DBs	Time Stamp	Com men ts	Error Defini tion	Err ors
12	BRS	L12	1 same 11	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:26		0	
13	BRS	L13	3679 leucine adj zipper	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:26		0	
14	BRS	L14	799 polyaspartate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:27		0	
15	BRS	L15	3501 4 same (13 or 14)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:27		0	
16	BRS	L16	1 15 same 2	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:27		0	
17	BRS	L17	2507 maltose adj binding adj protein	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:28		0	
18	BRS	L18	4 immunoglobulin adj g adj binding adj protein	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:28		0	
19	BRS	L19	1 (17 or 18) same 2	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:29		0	
20	BRS	L20	142 anderson adj george.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:29		0	
21	BRS	L21	1 mattoussi adj hedi.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:30		0	
22	BRS	L22	0 mauro adj matthew.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/08/05 11:31		0	

Type	L#	Hits	Search Text	DBs	Time Stamp	Com men ts	Error Defini tion	Err ors
23	BRS	L25	27	bawendi adj mounji.in.	USPAT; US-PGPUB; EPO; JPO; DER WENT	2003/08/05 11:32		0
24	BRS	L26	10	sundar adj vikram.in.	USPAT; US-PGPUB; EPO; JPO; DER WENT	2003/08/05 11:33		0
25	BRS	L27	1	(20 or 21 or 25 or 26) and (2 or 1)	USPAT; US-PGPUB; EPO; JPO; DER WENT	2003/08/05 11:34		0

FILE 'MEDLINE' ENTERED AT 12:22:50 ON 05 AUG 2003

FILE 'CAPLUS' ENTERED AT 12:22:58 ON 05 AUG 2003
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FILE 'SCISEARCH' ENTERED AT 12:22:58 ON 05 AUG 2003
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FILE 'AGRICOLA' ENTERED AT 12:22:58 ON 05 AUG 2003

=> s ionic conjugate
L1 20 IONIC CONJUGATE

=> s inorganic particle
L2 4864 INORGANIC PARTICLE

=> s linker or (linking group)
L3 53551 LINKER OR (LINKING GROUP)

=> s macromolecule or polypeptide or protein
L4 4 FILES SEARCHED...
7627914 MACROMOLECULE OR POLYPEPTIDE OR PROTEIN

=> s 12 (p) 13 (p) 14
L5 0 L2 (P) L3 (P) L4

=> s 11 (p) 12
L6 1 L1 (P) L2

=> d 16 1 ibib abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:713679 CAPLUS
DOCUMENT NUMBER: 135:269662
TITLE: Inorganic particle conjugates
INVENTOR(S): Mattoissi, Hedi; Anderson, George P.; Mauro, J.
Matthew; Bawendi, Moungi G.; Sundar, Vikram C.
PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA; Naval
Research Laboratory
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001071354	A2	20010927	WO 2001-US8788	20010320
WO 2001071354	A3	20020801		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
US 2002182632	A1	20021205	US 2001-811824	20010320
EP 1266223	A2	20021218	EP 2001-924209	20010320
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR		
PRIORITY APPLN. INFO.:			US 2000-190766P	P 20000320
			WO 2001-US8788	W 20010320

OTHER SOURCE(S): MARPAT 135:269662
AB The ***ionic*** ***conjugates*** include an ***inorg*** .
particle electrostatically assocd. with a macromol. which can

interact specifically with predtd. chem. species or biol. targets.

=> d his

(FILE 'HOME' ENTERED AT 12:22:34 ON 05 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
12:22:58 ON 05 AUG 2003

L1 20 S IONIC CONJUGATE
L2 4864 S INORGANIC PARTICLE
L3 53551 S LINKER OR (LINKING GROUP)
L4 7627914 S MACROMOLECULE OR POLYPEPTIDE OR PROTEIN
L5 0 S L2 (P) L3 (P) L4
L6 1 S L1 (P) L2

=> s charged or ionizable

L7 303684 CHARGED OR IONIZABLE

=> s l4 (p) l7

L8 47688 L4 (P) L7

=> s l8 (p) l2

L9 7 L8 (P) L2

=> duplicate remove l9

DUPLICATE PREFERENCE IS 'CAPLUS, BIOSIS, SCISEARCH'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L9

L10 6 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)

=> s l10 not l6

L11 6 L10 NOT L6

=> d l11 1-6 ibib abs

L11 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:222711 CAPLUS

DOCUMENT NUMBER: 138:385857

TITLE: Layer-by-layer deposition and characterization of
hyperbranched poly(amidoamine)-grafted silica
nanoparticles and direct red 80

AUTHOR(S): Park, Mi-Kyoung; Brookins, Bob; Blanton, Wally;
Colley, Richard; Tsubokawa, Norio; Advincula,
Rigoberto

CORPORATE SOURCE: Department of Chemistry, University of Houston,
Houston, TX, 77204-5003, USA

SOURCE: Polymeric Materials Science and Engineering (2003),
88, 345-346

CODEN: PMSEDG; ISSN: 0743-0515

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal; (computer optical disk)

LANGUAGE: English

AB Assembly of org.-inorg. nanostructure materials is an important,
interesting and dynamic area of today's science. It is important and
interesting to examine the behavior of ***charged*** small-mol. dyes
as components for alternate assembly with nanoparticles. Dendrimers are a
novel class of well-defined ***macromols*** . and perspective
candidates for self-assembly films due to controlled mol. wt. building,
controlled branching and versatility in modification of terminal groups.
We have reported that hyperbranched poly(amidoamine) dendron can be grown
from amino group on ultrafine silica, chitosan powder and carbon black
surface using dendrimer synthesis methodol. Novel poly(amidoamine)-
grafted ***inorg*** . ***particles*** can be incorporated into the
org.-inorg. nanostructures via the LBL method. In this paper, we have
reported the primary investigation of the layer-by-layer deposition of
PAMAM-grafted silica nanoparticles with low mol. wt. dye, DR80. We have
prep'd. the LBL films of two different generations of PAMAM-grafted silica
particles and compared the properties of the films. The LBL nanocomposite
films have been characterized by UV-vis, ellipsometry, and at. force
microscopy (AFM). Results suggest that the growth of PAA/PAMAM-grafted
silica nanoparticles LBL films occurred via lateral expansion deposition
mode.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:186004 CAPLUS
TITLE: Layer-by-layer deposition and characterization of hyperbranched poly(amidoamine)-grafted silica nanoparticles and Direct Red 80
AUTHOR(S): Park, Mi-Kyoung; Brookins, Bob; Blanton, Wally; Colley, Richard; Tsubokawa, Norio; Advincula, Rigoberto
CORPORATE SOURCE: Department of Chemistry, University of Houston, Houston, TX, 77204, USA
SOURCE: Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003 (2003), PMSE-207. American Chemical Society: Washington, D.C.
CODEN: 69DSA4
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Assembly of org.-inorg. nanostructure materials is an important, interesting and dynamic area of today's science. It is important and interesting to examine the behavior of ***charged*** small-mol. dyes as components for alternate assembly with nanoparticles. Dendrimers are a novel class of well-defined ***macromols*** . and perspective candidates for self-assembly films due to controlled mol. wt. building, controlled branching and versatility in modification of terminal groups. We have reported that hyperbranched poly(amidoamine) dendron can be grown from amino group on ultrafine silica, chitosan powder and carbon black surface using dendrimer synthesis methodol. Novel poly(amidoamine)-grafted ***inorg*** . ***particles*** can be incorporated into the org.-inorg. nanostructures via the LbL method. In this paper, we have reported the primary investigation of the layer-by-layer deposition of PAMAM-grafted silica nanoparticles with low mol. wt. dye, DR80. We have prep'd. the LbL films of two different generations of PAMAM-grafted silica particles and compared the properties of the films. The LbL nanocomposite films have been characterized by UV-vis, ellipsometry, and at. force microscopy (AFM). Results suggest that the growth of PAA/PAMAM-grafted silica nanoparticles LbL films occurred via lateral expansion deposition mode.

L11 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:187969 CAPLUS
TITLE: Intelligent polymer micro- and nanosized capsules
AUTHOR(S): Sukhorukov, Gleb B.
CORPORATE SOURCE: Max Planck Institute of Colloids and Interfaces, Capsulution NanoScience AG, Golm/Potsdam, 14424, Germany
SOURCE: Abstracts of Papers, 223rd ACS National Meeting, Orlando, FL, United States, April 7-11, 2002 (2002), COLL-051. American Chemical Society: Washington, D.C.
CODEN: 69CKQP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB This work is devoted to recently introduced novel polymeric films with spherical 3-dimensional topol. These films are fabricated by assembling of polymers on colloidal particles with sequential removal of colloidal core. Different templates, such as org. and inorg. colloid particles, ***protein*** aggregates, biol. cells and drug crystals can be used as cores to assemble multilayer film. The size of the cores may range from 50nm to tens of microns. Shells can be fabricated from a variety of compds. such as ***charged*** and non- ***charged*** polymers, biopolymers, lipids, multivalent dyes and inorg. nanoparticles. The permeability through the shell and release of the encapsulated materials can be controlled and modified by pH, ionic strength and solvents. By modification of shell interior the physico-chem. reactions, like dye pptn., enzymic reactions, ***inorg*** . ***particle*** synthesis are performed in confined geometry of the capsules. These polymer capsules are supposed to find applications in biotechnol., catalysis and food industry.

L11 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:708282 CAPLUS
DOCUMENT NUMBER: 135:326755
TITLE: Development of polyelectrolyte multilayer films and their applications to analytical chemistry (review)
AUTHOR(S): Anzai, Jun-Ichi
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Tohoku University, Sendai, 980-8578, Japan
SOURCE: Bunseki Kagaku (2001), 50(9), 585-594

PUBLISHER: AB A review. The development of polyelectrolyte multilayer films (PEM) is reviewed in relation to their applications to anal. chem. PEMs are constructed by a layer-by-layer deposition of oppositely ***charged*** polyelectrolytes on a solid surface from aq. solns. The PEM films are formed through an electrostatic force of attraction between polycation and polyanion. The structure of PEM films depends significantly on the properties of the bathing soln., including the concn. of polyelectrolytes, ionic strength, and pH. High ionic strength solns. usually result in thicker film. Hydrogen bonding and hydrophobic interactions also play a role as a secondary force in addn. to the electrostatic interactions. Functional PEMs were prep'd. using ***charged*** dyes, metal and ***inorg*** . ***particles*** , DNA, ***proteins*** , and virus. Anal. applications of PEM include coating the inner wall of capillaries for electrophoretic sepn., pervaporation films for alc./water purifn., sensitive layers of gas and humidity sensors, surface modification of functional electrodes, and ion-sensitive PEMs for optical ion sensors. ***Protein*** -contg. PEMs are finding wide applications to immuno sensors, enzyme sensors, bioreactors, and bio-fuel cells, in which ***proteins*** are still active in the PEM films.

L11 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS ON STN

ACCESSION NUMBER: 1999:33807 CAPLUS
 DOCUMENT NUMBER: 130:158175
 TITLE: Automatic determination of coagulation-flocculation reagents dose
 AUTHOR(S): Chilarescu, I. C.; Berevoianu, C.; Sandu, M.; Racoviteanu, G.
 CORPORATE SOURCE: Civil Engineering, Lecturer Technical University, Bucharest, RO-72302, Rom.
 SOURCE: Chemical water and wastewater treatment V, Proceedings of the Gothenburg Symposium, 8th, Prague, Sept. 7-9, 1998 (1998), 71-81. Editor(s): Hahn, Hermann H.; Hoffmann, Erhard; Oedegaard, Hallvard. Springer: Berlin, Germany.
 DOCUMENT TYPE: CODEN: 67ENAE
 LANGUAGE: Conference English

AB The flocculant dosage required for treating surface water by adsorption coagulation with charge neutralization is strongly detd. by the neg. charge concn. of the raw water, which is the sum of the neg. surface charge of ***inorg*** . ***particles*** , org. particles and naturally occurring dissolved ***macromol*** . orgs. (provided that these carry deprotonizable functional groups). At the Rosu Pilot Plant, the raw water experiences rapid and strong changes in quality. Whenever the quality of raw water changes, coagulation processes need to be adapted accordingly. In order to det. the dose of coagulant, the charge of the water is detd. by titrn. using a streaming current detector (SCD). The use of aluminum hydroxy complexes for a titrimetric detn. of the charge concn. results in a titrn. curve. There is a stoichiometric relationship between the neg. charge concn. of the raw water and the consumption of pos. ***charged*** polyelectrolytes or metal hydroxy complexes dosed for charge neutralization. The inflection point of the titrn. curve represents the optimum coagulant dose. Since the position of the inflection point is strongly influenced by the compn. of the raw water, rapid changes in raw water quality will change this position, making it necessary to change the coagulant dose. The SCD, used as an independent device, will give satisfactory results if the set point is correctly established. If, however, factors such as temp., pH, and water quality characteristics change, the set point value may need to be readjusted. This is often not practical under normal operating conditions. This paper describes the use of an Automatic Charge Titrn. Device (ACTD) designed by the authors. The advantage of the new device is that it dets. the charge concn. repeatedly, with no need for periodic calibration or readjustment of the set point value. The position of the inflection point is calcd. by computer, which commands and controls the titrn. process, and the resulting optimum dose is transmitted online to the dosing pumps in the pilot station. The ACTD is very efficient, esp. when raw water quality changes rapidly, and this is reflected in the treated water quality. The use of ACTD has great economic, health and ecol. advantages over traditional methods.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1987:172838 BIOSIS
DOCUMENT NUMBER: BA83:91279
TITLE: THE ADDITION OF CALCIUM TO REDUCE THE IMPAIRMENT OF
FLOCCULATION BY ALLOGENIC ORGANIC MATTER.
AUTHOR(S): BERNHARDT H; LUESSE B; HOYER O
CORPORATE SOURCE: WAHNBACH RESERVOIR ASSOCIATION, P.O. BOX 27, D-5200
SIEGBURG.
SOURCE: Z WASSER- ABWASSER- FORSCH, (1986 (RECD 1987)) 19 (6),
219-228.
CODEN: ZWABAQ. ISSN: 0044-3727.

FILE SEGMENT: BA; OLD
LANGUAGE: English

AB The disturbance to flocculation caused by alogenic extracellular organic matter (EOM) is usually the result of two mechanisms: a) the flocculant cations (Fe^{3+} or Al^{3+} ions) react with the EOM to form polynuclear mixed ligand complexes and/or b) the EOM reacts with the hydrolytically formed trivalent metal hydroxo complexes and oxide hydroxides to yield surface complexes. With the help of flocculation tests, our investigations have shown that this disturbance can be largely eliminated by adding calcium ions to the water before flocculation (Fig. 1). A decisive role is played by the mass ratio Ca^{2+} ions: EOM (Fig. 2) and the pH during flocculation (Fig. 3). In addition, the investigations have shown that a disturbance to flocculation is not caused by EOM at weakly acidic pH values (5.5-6.5) although it does occur markedly at pH values > 6.5. The charge of the iron hydroxo complexes is responsible for this. Their isoelectric point (i.e.p.) lies at pH 6.2 in the model water used for the experiments and its position is dependent on the anionic composition of the water. It was demonstrated that the i.e.p. is shifted to a lower pH range by HCO_3^- ions (Fig. 4) similar to the effect already known for multivalent anions. Ca^{2+} and HCO_3^- influence the charge of the iron hydroxo complexes. By increasing the calcium ion concentration or decreasing the HCO_3^- ion concentration the positive charge of the iron hydroxo complexes increases even in the basic range when the ionic strength is kept constant. This is caused by the attachment of Ca^{2+} ions to the negatively ***charged*** polynuclear iron hydroxy complexes. Moreover, calcium ions promote the adsorption of negatively ***charged*** EOM ***macromolecules*** to negatively ***charged*** $FeOOH$ surfaces and to negatively ***charged*** ***inorganic*** ***particles***. In this way they improve the effectiveness of the flocculation with regard to the removal of ***macromolecules*** and particulate matter. Calcium ions neutralize the negative charge of the polymer anions and become bound as calcium EOM. This results in a reduction of the potential of the EOM to form complexes with the metal hydroxo complexes. The aggregates thus formed are easier to filter after flocculation, which is favourable for EOM removal. Positively ***charged*** iron hydroxo complexes are also capable of counteracting the disturbance caused by EOM to flocculation. They are present when flocculation is carried out at a pH value below that of the i.e.p. (Figs. 8, 11). The mechanisms responsible for this situation are discussed. The investigations have also shown that the pH value of the water exerts a great influence on the conformation of the extracellular polymer molecules. The flocculation process is also decisively influenced by the conformation of the EOM (Figs. 5, 6). Thus, by changing the conformation of the EOM in a favourable way, Ca^{2+} ions are also able to prevent a flocculation disturbance.

=> d his

(FILE 'HOME' ENTERED AT 12:22:34 ON 05 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
12:22:58 ON 05 AUG 2003

L1 20 S IONIC CONJUGATE
L2 4864 S INORGANIC PARTICLE
L3 53551 S LINKER OR (LINKING GROUP)
L4 7627914 S MACROMOLECULE OR POLYPEPTIDE OR PROTEIN
L5 0 S L2 (P) L3 (P) L4
L6 1 S L1 (P) L2
L7 303684 S CHARGED OR IONIZABLE
L8 47688 S L4 (P) L7
L9 7 S L8 (P) L2
L10 6 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)
L11 6 S L10 NOT L6

=> s cdse or zns

L12 42264 CDSE OR ZNS

=> s semiconduct? (w) (nanocrystal or material)
L13 81471 SEMICONDUCT? (W) (NANOCRYSTAL OR MATERIAL)

=> s l12 (p) l13
L14 530 L12 (P) L13

=> s l14 (p) l4 (p) l3
L15 0 L14 (P) L4 (P) L3

=> s l14 (p) l4
L16 8 L14 (P) L4

=> duplicate remove l16
DUPLICATE PREFERENCE IS 'CAPLUS, BIOSIS, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L16
L17 7 DUPLICATE REMOVE L16 (1 DUPLICATE REMOVED)

=> s l17 not (l11 or l6)
L18 7 L17 NOT (L11 OR L6)

=> d l18 1-7 ibib abs

L18 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:185763 CAPLUS
TITLE: Fluorescent nanocrystal probes for cell surface
receptors
AUTHOR(S): Rosenthal, Sandra J.; Tomlinson, Ian; Burton, Jon;
Grey, Jesse; Mason, Jon; Gresch, Paul; Sanders-Bush,
Elaine; DeFelice, Lou; Blakely, Randy
CORPORATE SOURCE: Department of Chemistry, Vanderbilt University,
Nashville, TN, 37235, USA
SOURCE: Abstracts of Papers, 225th ACS National Meeting, New
Orleans, LA, United States, March 23-27, 2003 (2003),
PHYS-491. American Chemical Society: Washington, D.
C.
CODEN: 69DSA4

DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB The simultaneous localization of several different ***proteins*** in situ is currently limited by the wide emission spectra and low photostabilities of fluorescent dyes traditionally used to study cell surface receptors, ion channels, and transporters. An alternative reagent that can be customized to overcome these limitations are core (***CdSe***)/shell(***ZnS***) ***semiconductor*** ***nanocrystals*** (NC). We have explored the use of serotonin-conjugated nanocrystals (SNACs) to target serotonin (5HT) transporters (SERTs) as one example of their biol. utility. In contrast to a lack of labeling in parental HEK-293 cells by SNACs, SERTs in stably transfected cells were labeled by SNACs in an antidepressant-sensitive manner. We have further demonstrated the selective interaction of SNACs with SERT by blocking the uptake of tritiated 5HT. In a second demonstration we have developed ligand-conjugated nanocrystals to target the 5HT2A receptor and have selectively labeled this ***protein*** at the surface of cells in fluorescence labeling expts. This ligand-conjugation strategy has also been extended to the dopamine transporter. In a modification of this strategy we have conjugated antibodies to the nanocrystals and imaged cell surface receptors and transporters in living neurons. The development of these probes enables trafficking studies of these ***proteins***.

L18 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:922587 CAPLUS
DOCUMENT NUMBER: 138:178751
TITLE: Conformation Ordered nanoparticle arrays formed on
engineered chaperonin protein templates
AUTHOR(S): McMillan, R. Andrew; Paavola, Chad D.; Howard, Jeanie;
Chan, Suzanne L.; Zaluzec, Nestor J.; Trent, Jonathan
D.
CORPORATE SOURCE: NASA Ames Research Center, Center for Nanotechnology
and Astrobiology Technology Branch, Moffett Field, CA,
94035, USA
SOURCE: Nature Materials (2002), 1(4), 247-252
CODEN: NMAACR; ISSN: 1476-1122
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal

LANGUAGE:

AB English
Traditional methods for fabricating nanoscale arrays are usually based on lithog. techniques. Alternative new approaches rely on the use of nanoscale templates made of synthetic or biol. materials. Some proteins, for example, have been used to form ordered two-dimensional arrays. Here, we fabricated nanoscale ordered arrays of metal and semiconductor quantum dots by binding preformed nanoparticles onto cryst. protein templates made from genetically engineered hollow double-ring structures called chaperonins. Using structural information as a guide, a thermostable recombinant chaperonin subunit was modified to assemble into chaperonins with either 3 nm or 9 nm apical pores surrounded by chem. reactive thiols. These engineered chaperonins were crystd. into two-dimensional templates up to 20 .mu.m in diam. The periodic solvent-exposed thiols within these cryst. templates were used to size-selectively bind and organize either gold (1.4, 5 or 10nm) or CdSe-ZnS semiconductor (4.5 nm) quantum dots into arrays. The order within the arrays was defined by the lattice of the underlying protein crystal. By combining the self-assembling properties of chaperonins with mutations guided by structural modeling, we demonstrate that quantum dots can be manipulated using modified chaperonins and organized into arrays for use in next-generation electronic and photonic devices.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:602894 CAPLUS

DOCUMENT NUMBER: 137:330575

TITLE: Quenching phenomena in water-soluble CdSe/ZnS quantum dots

AUTHOR(S): Speckman, D. M.; Jennings, T. L.; LaLumondiere, S. D.; Moss, S. C.

CORPORATE SOURCE: The Aerospace Corporation, Los Angeles, CA, 90009, USA

SOURCE: Materials Research Society Symposium Proceedings (2002), 704(Nanoparticulate Materials), 269-274

CODEN: MRSPDH; ISSN: 0272-9172

PUBLISHER: Materials Research Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB ***Semiconductor*** ***nanocrystals*** are expected to play an important role in the development of novel electronic and optoelectronic devices, and have already shown promise in the area of biol. reporters for medical screening and sensor applications. We have been involved in developing luminescent ***CdSe*** / ***ZnS*** core-shell nanocrystals (or quantum dots, QDs) for use in self-assembled structures and as fluorescent reporters in immunoassay-based biodetectors. As part of our efforts to bind semiconductor ***CdSe*** / ***ZnS*** quantum dots to antibody ***proteins*** for our immunoassay work, we functionalized the nanocrystal surfaces with a variety of org. acid salts to impart water solv. to the nanocrystals. During the course of working with these derivatized, water-sol. quantum dots, we obsd. significant differences in their chem. reactivities and phys. characteristics compared to those of underderivatized ***CdSe*** / ***ZnS*** nanocrystals. One of the most striking differences obsd. is the reactivity of the derivatized and underderivatized nanocrystals with stainless steel surfaces. The fluorescence of aq. mixts. of our water-sol. nanocrystals is immediately quenched upon exposure of the mixts. to stainless steel (SS) surfaces or to chromium oxide, whereas underderivatized quantum dots exhibit little or no reactivity at all. As has been reported by several other labs., the water-sol. nanocrystals also exhibit significantly lower quantum yields compared to the underderivatized nanocrystals. We discuss the unusual reactivity exhibited by these nanocrystals, and suggest possible explanations for their interesting chem. behavior. We also describe methods to prevent the quenching of water-sol. derivatized quantum dots by stainless steel and metal oxides.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:211739 CAPLUS

DOCUMENT NUMBER: 134:333943

TITLE: Bioconjugation of highly luminescent colloidal CdSe-ZnS quantum dots with an engineered two-domain recombinant protein

AUTHOR(S): Mattoussi, H.; Mauro, J. M.; Goldman, E. R.; Green, T. M.; Anderson, G. P.; Sundar, V. C.; Bawendi, M. G.

CORPORATE SOURCE: Optical Sciences Division, United States Naval Research Laboratory, Washington, DC, 20375, USA

SOURCE: Physica Status Solidi B: Basic Research (2001),
224(1), 27-283
CODEN: PSSBBD; ISSN: 0370-1972
PUBLISHER: Wiley-VCH Verlag Berlin GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors present a novel approach, based on mol. self-assembly driven by electrostatic attractions, for conjugating inorg. colloidal ***semiconductor*** ***nanocrystals*** (quantum dots: QDs) having neg. charged surfaces with a 2-domain recombinant ***protein*** bearing a pos. charged C-terminal Leucine zipper domain. Aggregation-free QD/ ***protein*** conjugate dispersions were prepd. Conjugates retain both properties of the starting materials, i.e., biol. activity of the ***protein*** and spectroscopic characteristics of the QDs. Such hybrid bio-inorg. conjugates represent a powerful fluorescent tracking tool, because they combine advantages of ***CdSe*** - ***ZnS*** quantum dots, such as chem. stability and a wide range of size-dependent luminescence emission properties, with a straightforward electrostatic conjugation approach. The authors describe the design and prepn. of a model QD/ ***protein*** conjugate and present functional characterization of the conjugate using luminescence and bioassays.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:334569 CAPLUS
TITLE: Preparations of semiconductor nanocrystal-polystyrene hybrid materials.
AUTHOR(S): Erskine, Lael L.; Emrick, Todd; Alivisatos, A. Paul;
Frechet, Jean M. J.
CORPORATE SOURCE: Department of Chemistry, University of California,
Berkeley, CA, 94720, USA
SOURCE: Book of Abstracts, 219th ACS National Meeting, San
Francisco, CA, March 26-30, 2000 (2000), POLY-387.
American Chemical Society: Washington, D. C.
CODEN: 69CLAC
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB The prepn. of hybrid materials composed of inorg. particles and org. ***macromols*** . is relevant to many areas of materials science, including conductive and optoelectronic materials. We are interested in materials that combine the features of ***semiconductor*** ***nanocrystals*** and org. ***macromols*** . for evaluation of their properties. In particular, we have studied 4-thiomethyl styrene for its dual role as a capping ligand and polymerizable moiety in conjunction with ***CdSe*** ***semiconductor*** ***nanocrystals*** . Several approaches to the prepn. of such nanocrystal-polymer hybrids will be presented.

L18 ANSWER 6 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2001:134684 BIOSIS
DOCUMENT NUMBER: PREV200100134684
TITLE: Ligand-conjugated nanocrystals: targeting and visualization of membrane proteins in situ.
AUTHOR(S): Rosenthal, S. J. (1); Schroeter, S.; Adkins, E. M.; Tomlinson, I.; Swafford, L.; Ramsey, S.; Adams, S.; DeFelice, L. J.; Blakely, R. D.
CORPORATE SOURCE: (1) Vanderbilt Univ., Nashville, TN USA
SOURCE: Society for Neuroscience Abstracts, (2000) Vol. 26, No. 1-2, pp. Abstract No.-819.3. print.
Meeting Info.: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000
Society for Neuroscience
. ISSN: 0190-5295.

DOCUMENT TYPE: Conference
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The simultaneous localization of several different ***proteins*** in situ is currently limited by the wide emission spectra and low photostabilities of fluorescent dyes traditionally used to study cell surface receptors, ion channels, and transporters. An alternative reagent that can be customized to overcome these limitations is the core (***CdSe***)/shell(***ZnS***) ***semiconducting*** ***nanocrystal*** (NC). Through quantum confinement, the fluorescent wavelength of NCs are continuously tunable by size: e.g. 25A NCs emit at 455 nm while 60A NCs emit at 625 nm. Unlike dye molecules and variants of green fluorescent ***protein*** , NCs have narrow, gaussian emission

spectra enabling multiplex imaging. The absorption of the NCs is continuous above the band-gap, hence all sizes of NCs can be excited with a single excitation wavelength. In addition, NCs are extraordinarily bright, even after hours of continuous illumination. We explored the use of ligand-conjugated nanocrystals to target serotonin (5HT) transporters (SERTs) as one example of their biological utility. In contrast to a lack of labeling in parental HEK-293 cells by SNaCs, SERTs in stably transfected cells were labeled by SNaCs in an antidepressant-sensitive manner. We have further demonstrated the selective interaction of SNaCs with SERT by blocking the uptake of tritiated 5HT. The Ki values were similar to that of underivatized 5HT. We are also investigating whether SERTs in 5HT midbrain neurons cultured from rat embryos can be imaged with SNaCs or antagonist-conjugated NCs and whether these reagents can modulate currents associated with serotonin receptors or SERTs expressed in Xenopus oocytes.

L18 ANSWER 7 OF 7 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

ACCESSION NUMBER: 2003:371692 SCISEARCH

THE GENUINE ARTICLE: 671HJ

TITLE: Refractive index of transparent nanoparticle films measured by surface plasmon microscopy

AUTHOR: Kotsev S N; Dushkin C D (Reprint); Ilev I K; Nagayama K

CORPORATE SOURCE: Univ Sofia, Lab Nanoparticle Sci & Technol, Dept Inorgan Chem, Fac Chem, Room 339, 1 James Boucher Blvd, BU-1126 Sofia, Bulgaria (Reprint); Univ Sofia, Lab Nanoparticle Sci & Technol, Dept Inorgan Chem, Fac Chem, BU-1126 Sofia, Bulgaria; Temple Univ, Dept Phys, Philadelphia, PA 19122 USA; US FDA, CDRH, Electro Opt Branch, Rockville, MD 20857 USA; Natl Inst Physiol Sci, Lab Ultrastruct Res, Dept Mol Physiol, Okazaki, Aichi 4448585, Japan

COUNTRY OF AUTHOR: Bulgaria; USA; Japan

SOURCE: COLLOID AND POLYMER SCIENCE, (APR 2003) Vol. 281, No. 4, pp. 343-352.

Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010 USA.

ISSN: 0303-402X.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 72

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Nanometer thin films of latex spheres or ferritin macromolecules are deposited on silver substrate and their structure is studied by means of the surface plasmon resonance method. A homogeneous particle layer is spread in a circular paraffin cell tightly attached to a silver film on glass. Appropriate drying of the suspension in the presence of surfactant creates a monolayer and multilayer of ordered nanoparticles. The layers modulate the surface plasmon and, hence, the deep and narrow minimum in film reflectivity. Specially designed experimental setup views the illuminated film area by an optical microscope and measures the layer reflectivity as a function of the incident angle. The brightness of image, obtained at the angle of minimum reflectivity, depends on the thickness of particle layer. The reflectivity data are fitted regarding plane parallel layer of a complex refractive index and using theoretical equations that separate the real and imaginary parts. The calculated layer thickness and the real part of refractive index are in a reasonable agreement with those known for similar systems. The imaginary part of the refractive index depends on the structural defects of the nanoparticle layers.

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(FILE 'HOME' ENTERED AT 12:22:34 ON 05 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 12:22:58 ON 05 AUG 2003

L1 20 S IONIC CONJUGATE

L2 4864 S INORGANIC PARTICLE

L3 53551 S LINKER OR (LINKING GROUP)

L4 7627914 S MACROMOLECULE OR POLYPEPTIDE OR PROTEIN

L5 0 S L2 (P) L3 (P) L4

L6 1 S L1 (P) L2

L7 303684 S CHARGED OR IONIZABLE

L8 47688 S L4 (P) L7

L9 7 S L8 (P) L2

L10 6 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)

L11 6 S L10 NOT L6

L12 42264 S CDSE OR ZNS

L13 81471 S SEMICONDUCT? (W) (NANOCRYSTAL OR MATERIAL)
L14 530 S L12 (P) L13
L15 0 S L14 (P) L4 (P) L3
L16 8 S L14 (P) L4
L17 7 DUPLICATE REMOVE L16 (1 DUPLICATE REMOVED)
L18 7 S L17 NOT (L11 OR L6)

=> s ag or au or phospher
L19 736802 AG OR AU OR PHOSPHER

=> s l19 (p) l1
L20 1 L19 (P) L1

=> s l20 not l6
L21 1 L20 NOT L6

=> d l21 1 ibib abs

L21 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1961:38224 CAPLUS

DOCUMENT NUMBER: 55:38224

ORIGINAL REFERENCE NO.: 55:7496e-h

TITLE: Thermodynamic quantities for the dissociation equilibria of biologically important compounds. VIII. The first and second acid dissociations of arginine

AUTHOR(S): Datta, S. P.; Grzybowski, A. K.

CORPORATE SOURCE: Univ. Coll., London

SOURCE: Biochemical Journal (1961), 78, 289-97

CODEN: BIJOAK; ISSN: 0264-6021

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. CA 52, 15204c. The 1st and 2nd dissocn. consts. of arginine have been detd. at temp. (T) 0-55.degree. at 5.degree. intervals, from e.m.f. measurements of cells without liquid junction contg. H and ***Ag***-AgCl electrodes. The 1st dissocn. const. (pK1a) is equal to $(1087.6/T) - 4.7526 + 0.009189T$; the 2nd dissocn. const (pK2a) is equal to $(2643.6/T) - 0.8783 + 0.003363 T$. The standard thermodynamic quantities, .DELTA.G0, .DELTA.H0, -.DELTA.S0 and -.DELTA.COp, have been calcd. The various factors which contribute to the differences between the 1st and 2nd dissocn. consts. of arginine and glycine (loc. cit., King, CA 45, 4532h) have been discussed. It is concluded that the pK1a and pK2a values of arginine are lower, by a const. amt., than those of glycine, mainly because of the differences in the electrostatic interactions of the various ***ionic*** ***conjugate*** acid-base pairs with the solvent H2O.

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FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 12:22:58 ON 05 AUG 2003

L1 20 S IONIC CONJUGATE
L2 4864 S INORGANIC PARTICLE
L3 53551 S LINKER OR (LINKING GROUP)
L4 7627914 S MACROMOLECULE OR POLYPEPTIDE OR PROTEIN
L5 0 S L2 (P) L3 (P) L4
L6 1 S L1 (P) L2
L7 303684 S CHARGED OR IONIZABLE
L8 47688 S L4 (P) L7
L9 7 S L8 (P) L2
L10 6 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)
L11 6 S L10 NOT L6
L12 42264 S CDSE OR ZNS
L13 81471 S SEMICONDUCT? (W) (NANOCRYSTAL OR MATERIAL)
L14 530 S L12 (P) L13
L15 0 S L14 (P) L4 (P) L3
L16 8 S L14 (P) L4
L17 7 DUPLICATE REMOVE L16 (1 DUPLICATE REMOVED)
L18 7 S L17 NOT (L11 OR L6)
L19 736802 S AG OR AU OR PHOSPHER
L20 1 S L19 (P) L1
L21 1 S L20 NOT L6

=> s l19 (p) l2
L22 109 L19 (P) L2

=> s l12 (p) l3 (p) l4
L23 5 L12 (P) L3 (P) L4

=> duplicate remove l23

DUPPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'

KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n

PROCESSING COMPLETED FOR L23

L24 1 DUPLICATE REMOVE L23 (4 DUPLICATES REMOVED)

=> s l24 not l6

L25 1 L24 NOT L6

=> d l25 1 ibib abs

L25 ANSWER 1 OF 1 MEDLINE on STN

ACCESSION NUMBER: 2002263003 MEDLINE

DOCUMENT NUMBER: 21968607 PubMed ID: 11971705

TITLE: Targeting cell surface receptors with ligand-conjugated nanocrystals.

AUTHOR: Rosenthal Sandra J; Tomlinson Ian; Adkins Erika M;
Schroeter Sally; Adams Scott; Swafford Laura; McBride

CORPORATE SOURCE: James; Wang Yongqiang; DeFelice Louis J; Blakely Randy D
Department of Chemistry, Vanderbilt University School of
Medicine, Vanderbilt University, Nashville, Tennessee
37235, USA.

CONTRACT NUMBER: 5R03MH61874-02 (NIMH)

DA07390 (NIDA)

MH12399 (NIMH)

NS-34075 (NINDS)

SOURCE: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, (2002 May 1) 124
(17) 4586-94.

Journal code: 7503056. ISSN: 0002-7863.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200207

ENTRY DATE: Entered STN: 20020511

Last Updated on STN: 20020724

Entered Medline: 20020723

AB To explore the potential for use of ligand-conjugated nanocrystals to target cell surface receptors, ion channels, and transporters, we explored the ability of serotonin-labeled ***CdSe*** nanocrystals (SNACs) to interact with antidepressant-sensitive, human and *Drosophila* serotonin transporters (hSERT, dSERT) expressed in HeLa and HEK-293 cells. Unlike unconjugated nanocrystals, SNACs were found to dose-dependently inhibit transport of radiolabeled serotonin by hSERT and dSERT, with an estimated half-maximal activity (EC(50)) of 33 (dSERT) and 99 microM (hSERT). When serotonin was conjugated to the nanocrystal through a ***linker*** arm (LSNACs), the EC(50) for hSERT was determined to be 115 microM. Electrophysiology measurements indicated that LSNACs did not elicit currents from the serotonin-3 (5HT(3)) receptor but did produce currents when exposed to the transporter, which are similar to those elicited by antagonists. Moreover, fluorescent LSNACs were found to label SERT-transfected cells but did not label either nontransfected cells or transfected cells coincubated with the high-affinity SERT antagonist paroxetine. These findings support further consideration of ligand-conjugated nanocrystals as versatile probes of membrane ***proteins*** in living cells.

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L6 1 S L1 (P) L2

L7 303684 S CHARGED OR IONIZABLE

L8 47688 S L4 (P) L7

L9 7 S L8 (P) L2

L10 6 DUPLICATE REMOVE (1 DUPLICATE REMOVED)
 L11 6 S L10 NOT L6
 L12 42264 S CDSE OR ZNS
 L13 81471 S SEMICONDUCT? (W) (NANOCRYSTAL OR MATERIAL)
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 L18 7 S L17 NOT (L11 OR L6)
 L19 736802 S AG OR AU OR PHOSPHER
 L20 1 S L19 (P) L1
 L21 1 S L20 NOT L6
 L22 109 S L19 (P) L2
 L23 5 S L12 (P) L3 (P) L4
 L24 1 DUPLICATE REMOVE L23 (4 DUPLICATES REMOVED)
 L25 1 S L24 NOT L6

=> s leucine zipper
 L26 17208 LEUCINE ZIPPER

=> s polyaspartate
 L27 742 POLYASPARTATE

=> s (L26 or L27) (p) L4
 L28 14445 (L26 OR L27) (P) L4

=> s L28 (p) L2
 L29 1 L28 (P) L2

=> d L29 1 ibib abs

L29 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
 ACCESSION NUMBER: 2001:713679 CAPLUS
 DOCUMENT NUMBER: 135:269662
 TITLE: Inorganic particle conjugates
 INVENTOR(S): Mattoussi, Hedi; Anderson, George P.; Mauro, J.
 Matthew; Bawendi, Moungi G.; Sundar, Vikram C.
 PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA; Naval
 Research Laboratory
 SOURCE: PCT Int. Appl., 48 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001071354	A2	20010927	WO 2001-US8788	20010320
WO 2001071354	A3	20020801		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 2002182632	A1	20021205	US 2001-811824	20010320
EP 1266223	A2	20021218	EP 2001-924209	20010320
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRIORITY APPLN. INFO.:			US 2000-190766P P	20000320
			WO 2001-US8788 W	20010320

OTHER SOURCE(S): MARPAT 135:269662
 AB The ionic conjugates include an inorg. particle electrostatically assoc'd.
 with a macromol. which can interact specifically with predetd. chem.
 species or biol. targets.

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FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
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L1 20 S IONIC CONJUGATE
L2 4864 S INORGANIC PARTICLE
L3 53551 S LINKER OR (LINKING GROUP)
L4 7627914 S MACROMOLECULE OR POLYPEPTIDE OR PROTEIN
L5 0 S L2 (P) L3 (P) L4
L6 1 S L1 (P) L2
L7 303684 S CHARGED OR IONIZABLE
L8 47688 S L4 (P) L7
L9 7 S L8 (P) L2
L10 6 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)
L11 6 S L10 NOT L6
L12 42264 S CDSE OR ZNS
L13 81471 S SEMICONDUCT? (W) (NANOCRYSTAL OR MATERIAL)
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L21 1 S L20 NOT L6
L22 109 S L19 (P) L2
L23 5 S L12 (P) L3 (P) L4
L24 1 DUPLICATE REMOVE L23 (4 DUPLICATES REMOVED)
L25 1 S L24 NOT L6
L26 17208 S LEUCINE ZIPPER
L27 742 S POLYASPARTATE
L28 14445 S (L26 OR L27) (P) L4
L29 1 S L28 (P) L2

=> s maltose binding protein
L30 7206 MALTOSE BINDING PROTEIN

=> s immunoglobulin g binding protein
L31 110 IMMUNOGLOBULIN G BINDING PROTEIN

=> s (l30 or l31) (p) l2 (p) l3
L32 0 (L30 OR L31) (P) L2 (P) L3

=> s bawendi moungi/au
L33 11 BAWENDI MOUNGI/AU

=> s sundar vikram/au
L34 0 SUNDAR VIKRAM/AU

=> s anderson george/au
L35 42 ANDERSON GEORGE/AU

=> s mattoussi hedi/au
L36 42 MATTOUSSI HEDI/AU

=> s mauro matthew/au
L37 3 MAURO MATTHEW/AU

=> s (l33 or l35 or l36 or l37) and (l1 or l2)
L38 1 (L33 OR L35 OR L36 OR L37) AND (L1 OR L2)

=> s l38 not l6
L39 0 L38 NOT L6

=> d his

(FILE 'HOME' ENTERED AT 12:22:34 ON 05 AUG 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
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L6 1 S L1 (P) L2
L7 303684 S CHARGED OR IONIZABLE
L8 47688 S L4 (P) L7
L9 7 S L8 (P) L2
L10 6 DUPLICATE REMOVE L9 (1 DUPLICATE REMOVED)
L11 6 S L10 NOT L6

L12 42264 S CDSE OR ZNS
 L13 81471 S SEMICONDUCT? (W) (NANOCRYSTAL OR MATERIAL)
 L14 530 S L12 (P) L13
 0 S L14 (P) L4 (P) L3
 L15 8 S L14 (P) L4
 L16 7 DUPLICATE REMOVE L16 (1 DUPLICATE REMOVED)
 L17 7 S L17 NOT (L11 OR L6)
 L18 736802 S AG OR AU OR PHOSPHER
 L19 1 S L19 (P) L1
 L20 1 S L20 NOT L6
 L21 109 S L19 (P) L2
 L22 5 S L12 (P) L3 (P) L4
 L23 1 DUPLICATE REMOVE L23 (4 DUPLICATES REMOVED)
 L24 1 S L24 NOT L6
 L25 17208 S LEUCINE ZIPPER
 L26 742 S POLYASPARTATE
 L27 14445 S (L26 OR L27) (P) L4
 L28 1 S L28 (P) L2
 L29 7206 S MALTOSE BINDING PROTEIN
 L30 110 S IMMUNOGLOBULIN G BINDING PROTEIN
 L31 0 S (L30 OR L31) (P) L2 (P) L3
 L32 11 S BAWENDI MOUNGI/AU
 L33 0 S SUNDAR VIKRAM/AU
 L34 42 S ANDERSON GEORGE/AU
 L35 42 S MATTOUSSI HEDI/AU
 L36 3 S MAURO MATTHEW/AU
 L37 1 S (L33 OR L35 OR L36 OR L37) AND (L1 OR L2)
 L38 0 S L38 NOT L6
 L39

=> log y

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